

WHAT IS CLAIMED IS:

1. A wellbore junction for use in a subterranean well, the wellbore

5 junction comprising:

a first passage extending from a first opposite end to a second opposite
end of the wellbore junction;

a window formed through a sidewall of the wellbore junction; and

a second passage in communication with the first passage on a first side of
10 the window, and in communication with the first passage on a second side of the
window.

2. The wellbore junction according to claim 1, wherein the second
passage is generally parallel to the first passage in the wellbore junction.

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3. The wellbore junction according to claim 1, wherein the second
passage is laterally offset relative to a longitudinal axis of the first passage.

4. The wellbore junction according to claim 1, wherein the second
20 passage is separated from the first passage by only a single layer of material.

5. The wellbore junction according to claim 4, wherein the wellbore junction sidewall includes the layer of material.

6. The wellbore junction according to claim 1, wherein the second
5 passage is positioned external to a tubular cylindrical structure containing the first passage.

7. The wellbore junction according to claim 1, wherein the second
passage is positioned internal to a tubular cylindrical structure containing the
10 first passage.

8. The wellbore junction according to claim 1, wherein the first passage is expanded in the well to an enlarged configuration.

15 9. The wellbore junction according to claim 1, wherein the second passage is expanded in the well to an enlarged configuration.

10. The wellbore junction according to claim 1, further comprising a liner string extending through the window and secured in the first passage
20 between the window and a fluid path providing fluid communication between the first and second passages.

11. A subterranean well system, comprising:

a wellbore junction positioned in a first wellbore at an intersection between the first wellbore and a second wellbore, the wellbore junction having first and second passages formed therein, the first passage extending through the
5 wellbore junction; and

a liner string extending outwardly through a window formed through a sidewall of the wellbore junction and having an end secured in the first passage, the liner string extending into the second wellbore,

wherein the second passage provides fluid communication between the
10 first passage on a first side of the liner string end and the first passage on a second side of the liner string end.

12. The system according to claim 11, further comprising a well tool conveyed through the second passage from the first passage on the first side of
15 the liner string end to the first passage on the second side of the liner string end.

13. The system according to claim 11, further comprising a tubular string extending through the second passage between the first side of the liner string end and the second side of the liner string end.

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14. The system according to claim 11, wherein the wellbore junction is interconnected as part of a casing string in the first wellbore.

15. The system according to claim 14, wherein the first passage is aligned with a longitudinal axis of the casing string.

5 16. The system according to claim 14, wherein at least first and second deflectors are secured in the casing string below the liner string end.

17. The system according to claim 14, further comprising multiple of the wellbore junctions interconnected in the casing string.

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18. The system according to claim 17, wherein each of the wellbore junctions has a deflector secured in the first passage.

19. The system according to claim 17, further comprising a tubular
15 string positioned in the casing string, and wherein fluid flow between the second passage of each wellbore junction and the tubular string is controlled by a respective one of multiple flow control devices.

20. The system according to claim 19, wherein the tubular string is
20 sealingly engaged with the liner string end in the first passage.

21. The system according to claim 19, wherein the flow control devices are remotely controllable.

22. The system according to claim 19, wherein the flow control devices
5 are interconnected in the tubular string.

23. The system according to claim 11, wherein a first deflector is secured in the first passage for deflecting the liner string through the window.

10 24. The system according to claim 23, wherein the second passage provides fluid communication between the first passage on a first side of the first deflector and the first passage on a second side of the first deflector.

25. The system according to claim 23, wherein a second deflector is
15 secured in a casing string below the wellbore junction.

26. The system according to claim 11, wherein the wellbore junction is expanded in the first wellbore.

20 27. The system according to claim 11, wherein the first passage is expanded in the first wellbore.

28. The system according to claim 11, wherein the second passage is expanded in the first wellbore.

29. The system according to claim 11, wherein the first passage extends
5 through a tubular cylindrical structure.

30. The system according to claim 29, wherein the second passage is positioned external to the structure.

10 31. The system according to claim 29, wherein the second passage is positioned internal to the structure.

32. The system according to claim 29, wherein the second passage is separated from the first passage by a sidewall of the structure.

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33. The system according to claim 29, wherein the second passage is separated from the first passage by only a single layer of material in the structure sidewall.

20 34. The system according to claim 11, wherein the first wellbore is a branch wellbore.

35. The system according to claim 11, further comprising a flow control device which controls fluid flow between the first and second passages.

36. The system according to claim 11, further comprising an access
5 control device interconnected in a tubular string engaged with the liner string end, the access control device controlling access between the second passage and an interior of the tubular string.

37. The system according to claim 36, wherein the access control device
10 includes a sleeve movable relative to an opening formed through a sidewall of the tubular string.

38. The system according to claim 36, wherein the access control device
15 further controls fluid flow between the second passage and the interior of the tubular string.

39. The system according to claim 11, wherein a first fluid is produced from the well via one of the first and second passages while a second fluid is injected into the well via the other of the first and second passages.

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40. The system according to claim 11, further comprising a sensor sensing a fluid property in the second passage.

41. The system according to claim 11, further comprising a flow control device in the second passage controlling fluid flow between the first and second passages.

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42. The system according to claim 41, wherein operation of the flow control device is controlled from a remote location.

43. The system according to claim 11, further comprising a third
10 passage of the wellbore junction, the third passage providing fluid communication between a casing string on a first side of the wellbore junction and the casing string on a second side of the wellbore junction.

44. The system according to claim 43, wherein the third passage is in
15 fluid communication with an interior of the casing string below another wellbore junction interconnected in the casing string.

45. The system according to claim 44, wherein the third passage is further in fluid communication with another liner string secured in the another
20 wellbore junction and extending into a third wellbore.

46. The system according to claim 44, wherein the third passage is isolated from fluid communication with another liner string secured in the another wellbore junction and extending into a third wellbore.

5 47. The system according to claim 11, wherein the first wellbore intersects a third wellbore, and wherein the second passage provides fluid communication between the third wellbore and a casing string attached above the wellbore junction.

10 48. The system according to claim 47, wherein a deflector assembly secured in the first passage prevents fluid communication through the first passage between the third wellbore and the casing string above the wellbore junction.

15 49. The system according to claim 11, wherein the liner string end is secured in the first passage between the window and a first fluid path providing fluid communication between the first and second passages.

20 50. The system according to claim 49, further comprising a deflector secured in the first passage between the liner string end and a second fluid path providing fluid communication between the first and second passages.

51. The system according to claim 11, wherein the first and second passages extend generally parallel to each other in the wellbore junction.

52. The system according to claim 11, further comprising a fluid loss
5 control device selectively permitting and preventing fluid flow between the first and second wellbores.

53. The system according to claim 52, wherein the fluid loss control device is interconnected in the liner string below a liner hanger which secures the
10 liner string to the wellbore junction.

54. The system according to claim 52, wherein the fluid loss control device is positioned in the wellbore junction first passage.

55. A method of completing a well having at least first and second intersecting wellbores, the method comprising the steps of:

installing a casing string in the first wellbore, including interconnecting a first wellbore junction in the casing string;

5 securing a first deflector assembly in a first passage of the first wellbore junction; and

flowing fluid through a second passage of the first wellbore junction between the casing string on a first side of the first wellbore junction and the casing string on a second side of the first wellbore junction, without retrieving the
10 first deflector assembly from the first passage.

56. The method according to claim 55, further comprising the steps of:

deflecting a first liner string off of the first deflector assembly and into the second wellbore; and

15 securing an end of the first liner string in the first passage.

57. The method according to claim 56, wherein the securing step is performed prior to the flowing step.

20 58. The method according to claim 56, further comprising the steps of:
conveying a tubular string through the casing string; and

engaging the tubular string with the end of the first liner string, thereby providing fluid communication between the first liner string and the tubular string; and

providing fluid communication between the tubular string and the second
5 passage of the first wellbore junction.

59. The method according to claim 58, wherein the step of providing fluid communication between the tubular string and the second passage of the first wellbore junction comprises interconnecting a first flow control device in the
10 tubular string.

60. The method according to claim 59, further comprising the step of operating the first flow control device from a remote location.

15 61. The method according to claim 59, wherein the step of providing fluid communication between the first liner string and the tubular string comprises interconnecting a second flow control device in the tubular string.

62. The method according to claim 61, further comprising the step of
20 deflecting a second liner string off of a second deflector assembly installed in a first passage formed through a second wellbore junction interconnected in the

casing string, the second liner string being deflected into a third wellbore intersecting the first wellbore.

63. The method according to claim 62, further comprising the step of
5 providing fluid communication between the second liner string and the tubular string.

64. The method according to claim 63, wherein the step of providing
fluid communication between the second liner string and the tubular string
10 comprises interconnecting a second flow control device in the tubular string.

65. The method according to claim 64, further comprising the step of
operating the second flow control device from a remote location.

15 66. The method according to claim 63, wherein the step of providing
fluid communication between the second liner string and the tubular string
comprises flowing fluid through a third passage of the first wellbore junction.

67. The method according to claim 63, wherein the step of providing
20 fluid communication between the second liner string and the tubular string
comprises flowing fluid through a second passage of the second wellbore junction
between the casing string on a first side of the second wellbore junction and the

casing string on a second side of the second wellbore junction, without retrieving the second deflector assembly from the first passage of the second wellbore junction.

5 68. The method according to claim 58, wherein the step of providing fluid communication between the tubular string and the second passage of the first wellbore junction comprises interconnecting a flow control device in the second passage of the first wellbore junction, the flow control device controlling fluid flow between the first and second passages of the first wellbore junction.

10 69. The method according to claim 58, further comprising the step of conveying a well tool through the tubular string and into the second passage of the wellbore junction.

15 70. The method according to claim 69, wherein the well tool conveying step further comprises conveying a coiled tubing string through the tubular string and into the second passage.

20 71. The method according to claim 69, wherein the well tool conveying step further comprises conveying a wireline through the tubular string and into the second passage.

72. The method according to claim 69, wherein the well tool conveying step further comprises conveying the well tool into the casing string below the wellbore junction.

5 73. The method according to claim 69, wherein the well tool conveying step further comprises conveying the well tool into a third wellbore intersected by the first wellbore.

10 74. The method according to claim 69, wherein the well tool conveying step further comprises installing a second deflector assembly in the tubular string, and deflecting the well tool into the second passage through a window formed in a sidewall of the tubular string.

15 75. The method according to claim 55, further comprising the step of expanding the first passage in the well.

76. The method according to claim 55, further comprising the step of expanding the second passage in the well.

20 77. The method according to claim 55, further comprising the step of, after installing the casing string in the first wellbore, forming a fluid path between the first and second passages.

78. The method according to claim 77, wherein the forming step is performed by a cutting tool conveyed into the first wellbore junction.

5 79. The method according to claim 78, wherein the forming step further comprises deflecting the cutting tool from within the first passage to cut through a layer of material separating the first and second passages.

80. The method according to claim 77, wherein the forming step is
10 performed by a perforator conveyed into the first wellbore junction.

81. The method according to claim 55, further comprising the step of, after installing the casing string in the first wellbore, permitting fluid communication between the first and second passages.

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82. The method according to claim 81, wherein the fluid communication permitting step is performed by opening a flow control device of the wellbore junction.

20 83. The method according to claim 55, further comprising the step of, after installing the casing string in the first wellbore, permitting fluid flow through the second passage.

84. The method according to claim 83, wherein the fluid flow permitting step further comprises retrieving a plug from the second passage.

5 85. The method according to claim 55, further comprising the step of installing a fluid loss control device in the well, the fluid loss control device selectively permitting and preventing fluid flow between the first and second wellbores.

10 86. The method according to claim 85, wherein the fluid loss control device installing step further comprises interconnecting the fluid loss control device in a liner string extending from the first wellbore junction and into the second wellbore.

15 87. The method according to claim 86, wherein the interconnecting step further comprises interconnecting the fluid loss control device below a liner hanger which secures the liner string to the first wellbore junction.

20 88. The method according to claim 85, wherein the fluid loss control device installing step further comprises positioning the fluid loss control device in the first wellbore junction first passage.